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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/559,345

04/27/2000

Atsushi Murakoshi

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EXAMINER

NGUYEN, KIET TUAN

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/559,345

Applicant(s)

MURAKOSHI ET AL.

Examiner

Kiet T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 5, 21, 22 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 21, 22 and 25-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 5) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 6) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

***Rejection Under 35 U.S.C. 103(a)***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5, 21-22 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isaka (3-13576).

Isaka (3-13576) discloses, in fig. 1, an apparatus and/or method for generating and irradiating ions. The apparatus includes a heater 2 for heating indium iodide (InI) 3, which is particles, contained in a vessel 4 of a cylinder 1 which is a tall and narrow oven; and a filament 51 in a discharge chamber 5 for discharging a gasified indium iodide to producing indium and iodine ions. The InI is heated at the temperature of not lower than 300 °C and not higher than 500 °C to vaporize the InI. The vaporized InI is discharged by the filament 51 to generate indium (In) ions. The indium ions can be used as the ion source of an ion implantation device for implanting the indium (In) ions onto a substrate. The discharge chamber 5 has two gas inlets for an inert gas 54 and the vaporized InI a.

It is noted that the particle of the ion source material having the shape and size larger than 1 mm and not larger than 5 mm as recited in claims 1, 5 and 25-27; an ion beam current

produced not less than 2 microA as recited in claims 1, 5 and 26-27; and the chamber having the filament provided on one side surface and a reflector counter electrode provided on a second side surface opposite to the one side surface, and the gas inlet provided on one face of the chamber which is between and perpendicularly the one and the second side surfaces for introducing the vapor into the chamber as recited in claims 22 and 26-27.

Vaporizing the particle of the ion source material having the shape and size larger than 1 mm and not larger than 5 mm to produce ions is considered to be obvious variation in design, since the size and shape of an element is consisting of varying means of that element, further vaporizing the particle to produce ions does not effect to the size and shape of that particle, thus would have been obvious to one skilled in the art to use the particle of the ion source material having the shape and size larger than 1 mm and not larger than 5 mm in the Isaka (3-13576) apparatus and/or method for generating and irradiating ions as Isaka (3-13576) discloses using the particles of indium iodide 3.

Producing the ion beam current not less than 2 microA is also considered to be obvious variation in design, since the current of the ion beam used is depend on treating or making the devices to be different, thus would have been obvious to one skilled in the art to produce the ion beam current not less than 2 microA in the Isaka (3-13576) apparatus and/or method for irradiating ions into a substrate.

Using the chamber having the filament provided on one side surface and the reflector counter electrode provided on a second side surface opposite to the one side surface, and the gas inlet provided on the one face of the chamber which is between and perpendicularly the one and the second side surfaces for introducing the vapor into the chamber is also considered to be obvious variation in design, since the chamber having the filament provided on one side surface and a reflector counter electrode provided on a second side surface opposite to the one side surface, and the gas inlet provided on the one face of the chamber which is between and

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perpendicularly the one and the second side surfaces for introducing the vapor into the chamber is well known in the art and in the ion source as disclosed in Murakoshi et al. (10-188833), thus would have been obvious to one skilled in the art to use the chamber having the filament provided on one side surface and a reflector counter electrode provided on a second side surface opposite to the one side surface, and the gas inlet provided on the one face of the chamber which is between and perpendicularly the one and the second side surfaces for introducing the vapor into the chamber in the Isaka (3-13576) apparatus and/or method for generating and irradiating ions, since both different structures of the ion source chamber have the same results for generating ions.

Applicant's arguments filed on October 17, 2003 have been fully considered but they are not persuasive in view of the foregoing reasons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner *Kiet T. Nguyen* whose telephone number is (703) 308-4855.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

**K.T.N/Primary**  
12/15/03



**KIET T. NGUYEN**  
**PRIMARY EXAMINER**